

BILL OF QUANTITIES FOR RENOVATION OF SBI ATM AT MAIN BRANCH GHAZIABAD, UP					
S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
I	CIVIL WORKS :-				
1	Dismantling cement plaster, brick walls, toughened glass partition, glass door, floor spring, patch fittings, tile work in wall and floor laid in cement mortar, all electrical fittings and fixtures, AC, stablizers, ACP panelling, out side glow board, signage, gypsum / grid false ceiling including stacking material within 50 metres lead. Item includes disposal of building rubbish/ malba/ similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading to approved municipal dumping ground or beyond 50m initial lead, for all leads including all lifts involved. Complete in all respects as direction of Engineer-in-charge,	Sq.m	70.00		
2	Supplying and laying of brick bats of 25mm to 45mm size for SUB BASE COURSE tough, sound, clean and durable including cost of brick bats, all royalties, taxes, handling, transportation to site, unloading the same by the side of the road with all leads and lifts, spreading and laying to form water bound macadam in TWO LAYERS, each 115mm compacted thickness to proper grade, camber & level, binding the surface with murrum, including the cost of supply of murrum consolidating, watering with all leads & lifts including preparation of camber below first layer etc. complete as per drawings, specifications and directions of Engineer-in-Charge / Architect. (To Raise the Floor)	Sq.m	11.00		
3	Providing and laying full body Vitrified tiles in flooring including 100mm high skirting of homogeneous composition of following sizes (thickness to be specified by the manufacturer) with water absorptions less than 0.08% and confirming to IS : 15622 of approved shade and pattern. Tile to be laid on 20 to 50mm thick cement mortar 1 : 4 (1 cement : 4 coarse sand) including 5mm spacer and Grouting the joints of flooring, using epoxy grout mix of 0.70 kg of organic coated filler of desired shade (0.10kg of hardener and 0.20 kg of resin per kg) mix with pigment to match the shade of the tile, leveling of floor if required, covering it with plaster of paris to avoid damages & complete cleaning prior to handing over. Rate to include the cutting the tiles for floor traps,ducts and lids of electrical, computer and telephone wires and cleaning the same, curing etc., complete in all aspects, as specified and directed by the Engineer / Architect. Size 600mm x 1200mm (Basic rate of tile is Rs. 650/- per Sq.m. after discount). (Make : H R Johnson / Orient Bell / RAK / Kajaria)	Sq.m	22.00		

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4	Providing and applying average 12mm thick cement plaster in a single coat in cement mortar 1:4 without neeru finish with Natural sand to concrete or brick surface in all positions, heights & leads including providing fibre-mesh / chicken mesh at joints of brickwork and concrete and making good the chase cut for the purpose of electrification / plumbing, filling all gapes along the wooden door frames, Making moist the surface before plastering & curing the plaster surface for minimum 7 Days, scaffolding etc. complete as directed by the Architect / Engineer in charge.	Sq.m	70.00		
5	Providing and constructing 230 mm thick (or above) brick masonry walls for superstructure above plinth level & up to highest floor level with well burnt uniform size and colour locally available approved quality bricks of class 7.5 with minimum crushing strength not less than 75kg/cm ² in Cement Mortar 1:6 (1 cement : 6 coarse sand) for walls, shaft walls, parapets, drains, manholes, trenches etc. in proper line, levels and plumb including striking out / raking out joints, curing, necessary scaffolding etc. complete for all heights and levels in substructure and super structure as per the approved drawing and as per instructions of Architect / Engineer in charge.	Cu.m	1.00		
6	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 (Part-1) and M.S. top cover of required thickness for rolling shutters.				
i)	80 x 1.25 mm M.S. laths with 1.25 mm thick top cover	Sq.m	7.00		
7	Providing and fixing ball bearing for rolling shutters.	Each	2.00		
8	Asian Paints Apex Ultima Suprema Exterior Emulsion : Providing and applying anti algae, weatherproof Apex ultima 100% Acrylic exterior paint from approved make & shade to the exterior surface in two coats. Including preparation of the surface like holes, dents, and cracks to be filled only by using mixture of white cement and fine sand (in the ratio 1:3), including applying an exterior wall primer (X2) one coat, curing, scaffolding, cleaning etc. complete. as specification and as directed of Engineer in Charge / Architect. Make- Asian Paints, Nerolac. Complete in respects as per instructions of Engineer in Charge.	Sq.m	20.00		

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9	Providing, Fabricating, Erecting and Fixing in position Structural Steel work (SHS, ISMC, Angle, MS Plate & Joist etc) (SAIL, TATA. VIZAG & using electrodes of Ador or ES4B or Deh Secheron make only) in built up sections trusses and framed work including cutting, hoisting, fixing in position and finishing with a priming coat of approved steel primer including welding and bolted with special shaped wahsers etc.for all levels complete in all aspects as per approved drawings & as per instructions of Engineer in Charge.	Kg.	200.00		
	SUB TOTAL -A				
	B INTERIOR FURNISHING WORKS				
	1.0 FALSE CEILING				
1.1	Providing and fixing suspended false ceiling in Glass Fiber Reinforced Gypsum board. Gypsum board suspended ceiling shall comprise of providing and fixing G.I. perimeter channel (MF-6A) of size 0.50mm thick having one flange of 19.6mm and another flange shall be of size 29.6mm and a web of 26.6mm along with perimeter of ceiling, screw fixed to the beam for the required curvature with nylon sleeves and screws are not exceeding 610mm centers. Then suspending G.I. intermediate channel (MF-7) of size 45mm, 0.9mm thick with two flanges of 15mm each bent to the required curvature by cutting both of its flanges.				
	Suitable bracing to be provided where ever the flanges are cut with 0.9mm G.I. Flat and nuts and bolts at specific positions and thereafter at 1220mm centers with ceiling angle of width 25mm x 10mm x 0.50mm thick fixed to the soffit with G.I. cleats and steel expansion fasteners. Ceiling section (MF-5) of 0.50mm thickness having knurled web of 51.5mm and two flanges of 25.6mm each with lips of 10.5mm bent to the required profile by cutting both its flanges. Suitable bracing to be provided wherever the flanges are cut with 0.50mm flats.Steel screws, are then fixed to the intermediate channel with the help of connecting clip and in direction perpendicular to the intermediate channel at 457mm centres. 12.5mm tapered edge Glass Fiber Reinforced Gypsum board (conforming to IS-2095-1982) is then screw fixed to ceiling section with 25mm drywall screws at 230mm centres. Screw fixing is done mechanically either with screw driver or drilling machine with suitable attachment.				

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	The boards are to be jointed and finished which includes filling and finishing the tapered and square edges of the boards with jointing compound and fiber tape suitable for Gypsum board. A layer up to of 3.00mm thickness of Veneer Plaster is applied followed by two coats of topcoat (primer) at the face of board to give smooth seamless finish. 2 or more coats of plastic emulsion paint (roller finish) of approved shade and make shall be applied. The item includes making all necessary cut outs & frame work for electrical fixtures / air conditioning work coves etc. Shall have edge groove details and cove lighting provisions as per drawings. Rectifying all defects and cracks formed during the construction period before handling over the work complete. The rates shall include for necessary supports, scaffolding and labor. All as per drawing, approval and instructions of the architect / employer. Note: Horizontal surface shall be measured for the purpose of payment.	Sq.m	6.00		
1.2	Providing and fixing false ceiling system manufactured by M/s. Armstrong World Industries using hot dipped galvanized steel section, rotary stitched main tee of size 15mm x 42 mm web height, having 0.36 mm gauge at every 600 mm centre to centre maximum and rotary stitched cross tee of size 15 mm x 42 mm, having 0.33 mm gauge at every 600 mm. c/c. and wallangle of size 19 x 19 mm., having 0.35 mm gauge fixed to the periphery of the wall. The above grid is suspended at every 600mm c/c. in both directions using Butterfly clip & adjustable rod hanger laying. FINE FISSURED MICROLOOK WITH SILHOUETTE GRID ceiling tiles manufactured by M/s. Armstrong World Industries, of size 600mmx600mmx15mm having NRC 0.55, Light reflectance of >84% (WT), thermal conductivity k = 0.052-0.057 W/m0K, Humidity Resistance of 99% , having Fire Performance CLASS O / CLASS 1 (BS 476), surface having 3 coats of white paint with Fine Fissured,back of the tile duly sanded and finished with a coat of protective paint over the formed grid complete. All complete as per manufacturer's specification.	Sq.m	13		
	Rectifying all defects and cracks formed during the construction period before handling over the work complete. The rates shall include for necessary supports, scaffolding, labour. All complete as per drawing, approval and instructions of the Architect/ employer.				
	NOTE:- • For item no. 1.1 , 1.2 the false ceiling design can be stepped / curved / architectural design etc however only plan / horizontal surface shall be measured for the purpose of payment.				

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	<ul style="list-style-type: none"> • Ceiling shall be hung from the existing slab through hanger's. Rate quoted in the tender shall be applicable for all floor levels/ all floor height including scaffolding, etc complete. The rate of falseceiling items also includes 6 mm ply backing for supporting light fixtures in the false ceiling. 				
II	PARTITIONS & PANELLING WORK				
2.1	<p>Providing and fixing fully glazed partition including door made 12mm thick toughened glass fixed to the floor / wall / false ceiling with patch fittings. Exposed edges of glass shall be machine cut & polished. Door shall have 1" dia. 2'-0" long SS brushed finish handle (Hettich Make 9250424) on both sides including heavy duty double action floor-spring HETTICH Make Cat. No. 9227856 with steel cover plate, all accessories complete including lock etc. Cost includes cutting and making good the floor, walls, ceiling etc. for fixing floor spring and patch fittings. All glass to glass , glass to ceiling , glass to wooden partition & glass to floor joints shall be sealed with transparent silicon. All complete as per approval of the Architect / Engineer-in-Charge.</p>				
a	FIXED PARTITION	Sq.m	8.00		
b	DOOR	Sq.m	2.50		
2.2	<p>Providing, fabricating & fixing in position Aluminium Composite Panel (ACP) with framing of aluminum hollow section of 53mm x 38.10mm size 1.80 thick (Section no. 14089) of JINDAL / INDAL as internal frame structure placed horizontally & vertically in 600mm x 600mm center to center. Joint free ACP to be in minimum 600mm width panels or distributed equally as per the direction of Bank / Architects and site condition. Panels to be fixed to the frame with adhesives as per manufacturer's specification. ACP shall be of minimum 4mm thickness (0.5mm+3mm+0.5mm). Colour of ACP shall be as per bank's preference. Additional Aluminium Sections to be provided to fix the AC units near the machine area at the highest position. All complete as per approval & instructions of the Engineer in Charge / Architect</p>	Sq.m	65.00		
	SUB TOTAL -B	:			

S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C	ELECTRICAL WORKS :				
1	Wiring for light point/ fan point/ wall fan point/ exhaust fan/ light sockets etc. with 1.5 sq.mm. PVC insulated 1100 V Grade copper conductor (FRLS) wires & 1.5 sq.mm. copper earth wire in concealed/ surface using 16 SWG MS conduits, accessories such as bends, tees, saddles, draw boxes, mounting boxes, inner plates, cover plates, ceiling rose etc (wherever required) and chromium plates brass screws/ rowel plug etc. The circuit wiring starting from DB to point control box/ switch box using 2 X 2.5 sq.mm PVC insulated 1100 V grade multi- stranded copper conductor wire & 2.5 sq.mm. PVC insulated earth wire (color code to be used). (Flexible conduit/ elbow not allowed). The conduit to be laid in ceiling with proper clamps/ wall/ floor and filling the chase with cement mortar and finishing the same in original form/ wooden partition/ above false ceiling with proper clamps etc. all complete. (Wherever required as per standard specifications).				
a)	Each circuit shall have independent earth wire.				
b)	Each point shall be earthed.				
c)	Circuit wiring is to be included in point wiring rates.				
i	One light points controlled by one 6 amp. Modular switch.	Nos.	2.00		
ii	Two light points controlled by one 6 amp. Modular switch.	Nos.	4.00		
iii	Four light points controlled by one 6 amp. Modular switch For cove light.	Nos.	2.00		
iv	Same as serial no 1 but using 2x2.5 + 1x2.5 Sqmm Copper Conductor FRLS wires from DB to first 6A, 5 Pin modular socket controlled by one 6A switch and looped to the nearest second point with same 2*2.5 + 1*2.5 Sqmm copper conductor wires FRLS insulated 1100V grade (max 4 points per circuit).				
a)	Primary Point	Nos.	1.00		
b)	Secondary Point looped	Nos.	1.00		
2	POWER POINTS				
	Same as serial no.1, but wiring for 16 Amp, 6-pin sockets by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire with independent 1* 4.0 sq.mm earth wire from D.B. to first point 1 st socket and 1 st to 2 nd , socket with 2*2.5 sq.mm. and 1*2.5 earth wire including providing and fixing of 16 Amp, 6 -pin socket with 16 Amp. Switch. (Modular type switch/ socket/ plate etc. complete assembly) max 2 points per circuit.				
a)	Primary Point	Nos.	1.00		

S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
b)	Secondary Point	Nos.	1.00		
3 a)	Same as serial no.1, but wiring for A/C socket by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire and earthing with 1*4.0 sq.mm. PVC insulated 1100 V grade copper conductor wire with modular type AC box(tiny trip type) with socket complete in all respects controlled by 25/32 A SP MCB to be provided near indoor unit. The point starts from DB to stabilizer to the point near the indoor unit including top.	Nos.	2.00		
4	COMPUTER POINTS				
a	Wiring with 2x2.5 sq.mm. + 1x2.5 sq.mm. PVC insulated 1100 V grade multi stranded copper conductor wires in 2 mm thick PVC conduit from UPS DB to computer point. Each point to have 3 nos. 6 amps. 5 pin modular type sockets, one 16 amps modular switch with all accessories, inner/ outer plates, metal box etc. and to be fixed on wooden partitions/ by grouting on wall etc. as per requirement at site. The switch should be fixed above the top of counter with indicator and sockets under the counter b) Same as above but looped from the above 1st point to 2nd , point and 2nd point to 3rd point. (Maximum 3 points in a circuit)				
	Primary Points	Nos.	5.00		
	Secondary Points	Nos.	5.00		
b	Wiring with 2x2.5 sq.mm. + 1x2.5 sq.mm. PVC insulated 1100 V grade multi stranded copper conductor wires in 2 mm thick PVC conduit from UPS DB to computer point. Each point to have 2 nos. 6 amps. 5 pin modular type sockets, one 16 amps modular switch with all accessories, inner/ outer plates, metal box etc. and to be fixed on wooden partitions/ by grouting on wall etc. as per requirement at site. The switch should be fixed above the top of counter with indicator and sockets under the counter b) Same as above but looped from the above 1st point to 2nd point . (Maximum 3 points in a circuit)				
	Primary Points	Nos.	2.00		
	Secondary Points	Nos.	2.00		

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c	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2mmthick PVC conduit from UPS DB to computer point. Each point to have 1 nos. 16 amps 5 pin modular type sockets, 1 No's 16 amps modular switch with all accessories, inner/ outer plates , metal box etc and to be fixed on wooden partitions/ by grouting on wall etc as per requirement at site. The switch should be fixed above the top of counter and sockets under the counter. or as directed by the engineer incharge for the rack supply e-lobby (for e-lobby the points should be in lock and key arrangement). (Maximum 1 points in a circuit)				
	Primary Points	Nos.	7.00		
d	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2mmthick PVC conduit from UPS DB to computer point. Each point to have 2 nos. 16 amps 5 pin modular type sockets, 2 No's 16 amps modular switch with all accessories, inner/ outer plates , metal box etc and to be fixed on wooden partitions/ by grouting on wall etc as per requirement at site. The switch should be fixed above the top of counter and sockets under the counter. or as directed by the engineer incharge for the rack supply in server room for 2nos. each rack , 1 nos PA rack, 1no. CCTV. b) Same as above but looped from the above 1st point to 2nd point (Maximum 2 points in a circuit)				
	Primary Points	Nos.	1.00		
	Secondary Points	Nos.	1.00		
B.	CONDUITING FOR TELEPHONE, COMPUTER & CONDUITING, WIRING FOR T.V. SYSTEM.				
1	COMPUTER NETWORKING				
1.1	Wiring for computer networking from Jack Panel in data rack to computer workstation with Cat-6 computer cable in PVC conduits of size 20/ 25 mm including providing ferrules at both ends and termination at both ends including providing & fixing frame for Cat-6 with shutter, HI-speed data outlet, faceplate and mounting box complete of modular type, This work includes supply and laying of CAT-6 cable in PVC conduits throughout the length, from the I/O hub to the point.	Nos.	10.00		
1.2	Supplying and fixing 9U 19", 480x600x440 mm, (H x W x D), 370mm working depth (Rack with glass door, opening in the front power panel 1 (horizontal), cable manager 1 lock & key).	Nos.	1.00		
1.3	Supply, Installation, Testing & Commissioning of 16 port Jack Panel. (1 for data, 1 for tele)	Nos.	1.00		
1.4	Supplying and fixing Patch Cord-2 Meter- (DBPS Mounting Cord)	Nos.	10.00		

S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1.5	Supplying and fixing Patch Cord-1 Meter-	Nos.	10.00		
C.	CABLES, MAINS & SUBMAINS				
1	Supplying all materials and laying/ pulling 1100 volts grade PVC insulated copper conductor wires (FRLS) in MS conduit with all fixing accessories after cutting the floor, wall and the like etc. and replastering the floor level to original. Conduit must be 30 mm below the floor finish level.				
i	2 x 6 sq.mm. + 1 x 6 sq.mm.	R.mtr	25.00		
ii	Supplying, laying, testing & commissioning of 4 C x 10 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Light DB).	R.mtr	20.00		
iii	Supplying, laying, testing & commissioning of 4 C X 16 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (power DB,AC & UPS).	R.mtr	25.00		
iv	Supplying, laying, testing & commissioning of 3.5C x 50 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification.	R.mtr	30.00		
D.	DISTRIBUTION BOARD				
	Supplying, installing, testing & commissioning of surface/recessed mountings, Double door 415 volts TPN MCB distribution board of steel steel, 1.6mm thick dust phosphatized and painted, inclusive of 100 amps, tinned copper busbars, earthbar, common neutral link, din bar for mounting of MCB's detachable gland / knock out plate & with built in loose wire box, and superior make terminal connectors for all incoming and outgoing circuits duly prewired with adequate size of PVC insulated copper wires between the bus bars and the MCB's as well as the incomer and upto the terminal connectors/ neutral link and ready for installation of following ways as required.				
	Use 'B' curve MCB's for lighting & small power circuits, 'C' curve for motor duty i.e. for pumps, AC motors, window and split AC's etc. & 'D' curve for UPS DB's i.e. for computers/ PC's circuit. Main incomer & outgoing circuit MCB's shall be selected accordingly i.e. type B,C & D. Contractor to select the MCB's accordingly as per the nature of the circuit/ load.				

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	Each DB shall have separate neutral links of rating not less than 100A for each phase. The main incoming neutral link shall be in addition to three outgoing neutral links and shall be of 125 A.				
	UPS DB's shall have a dedicated Earthing link fixed on insulated supports, which will be in addition to body earth link.				
	All internal inter connecting wiring with in the DB's shall be PVC insulated flexible copper conductor wires of adequate capacity as per the current rating.				
	Inside each DB, a DB chart is to be fixed.				
a	8-way SPN DB (For ELOBBY UPS OUTPUT)	No.	1.00		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				
	Outgoing:-				
	4 Nos.6/10/16 Amp (10 KA) SP MCB				
b	8-way SPN DB (For ELOBBY Light & Power db with lock & key arrangement)	No.	1.00		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				
	Outgoing:-				
	4 Nos.6/10/16 Amp (10 KA) SP MCB				
E	(LIGHT FITTINGS & ACCESSORIES)				
	Supplying, installation with hanging support, testing and commissioning of following light fixtures with electronic Ballasts, Tubes, lamps, all fixing materials including connecting wires etc. all complete as per the directions of Engineer-in-charge (All LED Light Fixures should be covered with minimum 3 Years onsite replacement warranty). (WIPRO,PHILIPS,HAVELLS)				
i	FULL GLOW 2 X 2 LED 36 W slim Smart Panel of make As specified in tender document or approved by SBI/Architect.	Nos.	8.00		
ii	Supplying, fixing, testing and commissioning of 18 W LED commercial type down lighter of make As specified in tender document or approved by	Nos.	2.00		
iii	Wall mounted fans 400/450 mm dia. make As specified in tender document or approved by SBI/Architect. (Metal Body)	Nos.	2.00		
F.	EARTHING SYSTEM				

S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Supply, Installation, Testing and Commissioning of Waterless Maintenance Free Earthing Based on Pre-Casted Conductive Earthing Electrode. i) Dimensions Length x Dia (MM) : 2000 x 100 with 15mm Solid Conductor (Cu) ii) Conduction: Non Ionic Movement of Ions iii) Multi Point Dissipation Contacts iv) Exceeds Grade 25 Concrete vi) Relative Density: 890-990 kg/m3 vii) 3000 times more effective than Bentonite viii) Electrolytic Corrosion Resistance: >86% reduction in corrosion ix) Short Circuit Current (Tested): Peak: 40 KA RMS: 22 Kilo Amps for 1 Sec x) Mechanical Strength: >Grade 25 Concrete xi) High Fault Current Test Withstand: 1686 V for 500 ms xii) Standards: IEEE 80:2000 & BS 7430 xiii) Warranty: 10 Years Full Replacement xiv) Life of Earthing: 25 Years respectively xvi) Make: KRATONITE / MARCONITE / KARANITE	Nos	2.00		
2	Providing and fixing of Copper strips in surface or in recess for loop earthing etc. as required.				
i	Copper Strip (PVC insulated heat shrinkable sleeves) of size 25 x 3mm as in earth continuity conductor fixed to wall or buried in ground or any other situation for loop earthing as required at site (Quantity depend on Site Requirement)	R.mtr	20.00		
ii	Providing and fixing 2 X 8 SWG dia. Cu earth wire in PVC conduit on surface or in recess for earthing along with the existing surface/ recess cable as required. From pit to the panel & UPS	R.mtr	30.00		
	SUB TOTAL-C				
D	AIR-CONDITIONING WORKS :				
	SPLIT/ CASSETTE TYPE AIR CONDITIONERS				

S NO.	ITEM DESCRIPTION	UNIT	QTY	RATE	AMOUNT
1	Supplying, erection, testing and commissioning following wall mounted Split/ Root mounted cassette units of (Toshiba/ Mitsubhishi/ Hitachi/ Daikin/ O-General/ Voltas/ Bluestar / Carrier) with cordless remote complete with all necessary fittings duly insulated with 9 mm thick nitrile rubber pipe insulation with (All coils – copper only) , fan and fan motor, machine control panel improved Refrigerant Joints, .Air conditioners shall be fitted with hermetically sealed type suction cooled reciprocating or discharge cooled rotary compressor or scroll compressor. Compressor unit operating on R32/ R-410. All complete as per drawing, approval and instructions of the Architect/ Employer. Item to include powder coated outdoor stands as per the manufacturer specifications.(Rates to be inclusive of Copper refrigerant pipe with insulation up to 3 Mtr length only for Each split AC Unit)				
a	1.5 TR split AC 5 star rating inverter type including all necessary fittings and mountings as specified by the manufacturer	Nos.	2.00		
2	EXTRA REFRIGERANT PIPING				
	Supplying and laying of Extra copper refrigerant piping with nitrile rubber pipe insulation, both of size as specified by the manufacturer suitable for 1.0/1.5/ 2.0 TR Split type AC and 2.0 TR/ 3.0 TR/4.0 TR Cassette AC - From Indoor to outdoor Units (make as approved by Architect/ Bank)				
a	For 1.5 TR/ 1.0 TR Split AC as specified by the manufacturer	Mtr.	5.00		
3	DRAIN PIPING				
	Providing and fixing drain piping up to drain as directed by the engineer incharge with all accessories e.g. elbows, unions, sockets, reducers, reducing tees, nipples etc. Complete job including cutting chiseling in walls, floor and making good of all chases/ cuts etc. and discharging the drain into a floor trap/ gully as per site conditions with insulation, both as specified by the manufacturer (make as approved by Architect/ Bank).				
a	25 mm dia PVC drain pipe for Split AC	Mtr.	10.00		
4	Providing and fixing of lockable caging for outdoor unit grouted on wall or on roof with open able shutter made of 10 X 10 mm MS square bars placed vertically @ 6" c/c welded with 40 X 3 mm MS flat all- round. Item includes all necessary hardware, priming coat, synthetic enamel paint, hanger, clamps other accessories etc. All complete as per approval and instructions of the Architect/ employer.				

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a	For 1.5/1.0 TR Hi Wall split units	Nos.	2.00		
5	Supplying and laying of Extra Electrical interconnecting control cable from indoor to outdoor of size as specified by the manufacturer suitable for 1.0/1.5 TR Split type AC (make as approved by Architect/ Bank).	Mtr.	10.00		
6	Supplying and laying of Extra Electrical interconnecting control cables from indoor to outdoor of size as specified by the manufacturer suitable for 3/4.0T Cassette type AC (make as approved by Architect/ Bank).	Mtr.	10.00		
7	Supplying, installation and commissioning of voltage stablizer of range 140-280 V for Acs (V-guard/ Livguard/ Kirnotics make as approved by Architect/ Bank).				
a	For 1.0/1.5 Tr. Wall mount (4 Kva)	Nos.	2.00		
8	Supplying, installation and commissioning of automatic 24 HRS. programmable TIMER of required capacity to run A.C. alternately (MDS / L&T / make as approved by Architect / Bank).	Nos.	1.00		
	SUB TOTAL - D				
	TOTAL (A+B+C+D)				